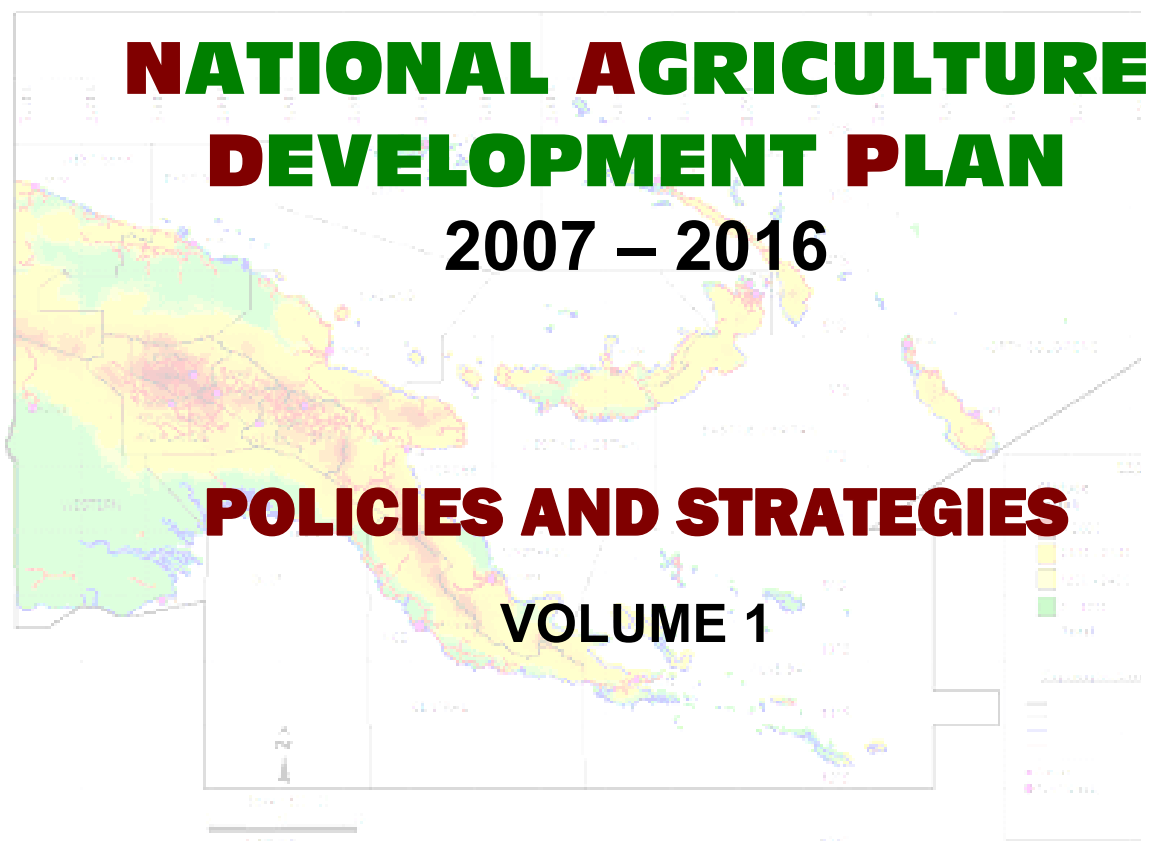




Independent State of Papua New Guinea
Ministry of Agriculture and Livestock



GROWING THE ECONOMY THROUGH AGRICULTURE

TABLE OF CONTENTS

Chapter	Title	Page
	List of Acronyms	viii
	Foreword	x
	Minister’s Statement	xii
	Executive Summary	xv
	Map 1. Districts of Papua New Guinea	xx
	Map 2. Existing and Potential Commodities of Papua New Guinea	xxi
1	Introduction	1
1.1.	Background	1
1.2	Rationale for NADP	1
1.3.	Framework of NADP	2
	1. Formulation Process	2
	2. Vision	3
	3. Mission	3
	4. Goal	4
	5. Purpose	4
	6. Objectives	4
	7. Strategies	4
	8. Inputs	5
	9. Desired Outputs	5
	10. Expected Outcomes	5
	11. Core Values	6
1.4.	Components and Organization	7
2	An Overview of Agriculture	8
2.1	General Background	8
2.2	Agriculture and the Economy	8
2.3	Agriculture and the Population	9
2.4	Agriculture and the Environment	10
2.5	Institutional and Management Set-Up of Agriculture	10
	1. Primary Government Agriculture Bodies	10
	2. Other National Agencies	11
	3. Provincial and District Administrations	13
2.6	General Performance of the Sector	13
2.7	Issues Affecting Agricultural Development	15
	1. Roads and Transport Infrastructure and Communication	15
	2. Law and Order	17
	3. Land Tenure	18

	4. Financing	19
	5. Natural Resource Management	20
	6. Agricultural Products	20
	7. Marketing and Promotion	22
	8. Gender, Social Issues, and HIV/AIDs	24
2.8	Strength and Potential	26
	1. Favourable environment for agricultural production	26
	2. Idle lands	27
	3. Entrepreneurial attitude	27
	4. Disease-free status	28
	5. Organic production	28
	6. Nucleus-enterprise model	28
	7. Demand for food	28
	8. Demand for inputs	28
3	Agricultural Policies	29
3.1	Background	29
3.2	Policies Affecting Agricultural Development	29
	1. Establishment of Provincial Government	29
	2. Establishment of Commodity Institutions	29
	3. Organic Law	30
	4. Minimum Wage Policy	31
	5. Trade Policy	31
	6. Macroeconomic Policies	32
	7. Industry Assistance	33
3.3	NADP Policy Objectives	35
3.4	Key Policy Areas	36
	1. Improve macroeconomic and incentive regimes	36
	2. Improve the effectiveness of public institutions, programs and expenditures	37
	3. Foster greater private sector investments	39
	4. Address deficiencies	40
4	Agricultural Research, Extension, Information and Training	43
4.1	Background	43
	1. Research and Extension Situation	43
	2. Extension Models/Programs	44
4.2.	Key Drivers/Actors	50
	1. NDAL	50
	2. NARI	50
	3. CO	50
	4. NRI	51
	5. INA	51
	6. Provincial/District Administrations/LLG	52
	7. Other Research Institutions and Agencies	52
4.3	Issues and Constraints	52

	1. Market- or demand-driven research	52
	2. Impact of reform in extension	53
	3. Policy direction and planning	54
	4. Staffing	54
	5. Inadequate linkages	55
	6. Lack of coordinated information system	55
	7. Inconsistent funding	55
	8. Farming systems approach	56
4.4.	Strengths and Opportunities for Development	56
	1. Excellent environment for growing crops and livestock	56
	2. Method of setting priorities	56
	3. Available resources	57
	4. Farmers' initiatives	57
	5. Extension models	57
	6. Information technology and extension	57
	7. Educational institutions	58
	8. Research-extension linkages	59
4.5.	Priority Areas and Programs	59
	1. Development of an Effective National Agricultural Research System	59
	2. Packaging of Technology	60
	3. Introduction of the NARES	61
	4. Extension-Research Communication and Sector Linkage	64
	5. Human Resource Development and Capacity Building	66
4.6	Expected Outcomes	68
5	Food Crops and Horticulture Development	69
5.1.	Introduction	69
5.2.	Current Status of Food Crops Industry	69
	1. Production of Staples	69
	2. Production of Grain Crops	70
	3. Commercial Food Production	71
	4. Food Processing and Preservation	73
	5. Marketing	73
	6. Agro-ecological Adaptation	74
5.3.	Key Partners/Drivers in the Industry	75
5.4.	Issues and Constraints	75
	1. Low level of food production	75
	2. Lack of support for food processing industry	76
	3. Marketing	77
5.5.	Development Opportunities	78
	1. Production	78
	2. Food processing and promotion	78
	3. Market promotion	79

5.6	Priority Programs for Food and Horticulture Crops Development	79
	1. Improved food production	79
	2. Development of food processing and preservation industry	81
	3. Market development and promotion	82
5.7	Expected Outcomes	84
6	Tree and Industrial Crops Development	85
6.1.	Background	85
6.2.	Current Status	85
	1. Oil Palm	85
	2. Coffee	86
	3. Cocoa	87
	4. Coconut	88
	5. Rubber	89
	6. Tea	90
6.3	Market	90
	1. Competitiveness of the tree crop sector	91
	2. Government price support	92
6.4.	Issues and Constraints	93
	1. Low price	93
	2. Low production and productivity	93
	3. Lack of credit	94
	4. Poor infrastructure and services	94
	5. Lack of sustainable funding	94
	6. Foreign-owned exporters	94
6.5.	Strength and Opportunities	95
	1. Farmers	95
	2. Competitive advantage in smallholder production	95
	3. Resources available	95
	4. Organic production for niche market	96
	5. High quality products	96
6.6.	Priority Programs for Development	97
	1. Development of linkages and making policy changes	
	2. Nucleus enterprise development and rehabilitation	97
	3. Cooperatives and market development	99
	Expected Outcomes	100
6.7		101
7	Livestock, Apiculture and Aquaculture Development	102
7.1.	Introduction	102
7.2.	Livestock Development Plan	102
	1. Current Status	102
	2. Livestock Production Systems	105
	3. Marketing Practices and Network	105
	4. Key Partners/Drivers	106
	5. Issues and Constraints	107

	6. Strengths and Potential	108
	7. Priority Program and Strategies for Development	110
7.3.	Aquaculture Development Plan	112
	1. Current Status	112
	2. Aquaculture Production System	112
	3. Issues and Constraints	114
	4. Priority Program and Strategies for Development	115
7.4	Apiculture Development Plan	116
	1. Apiculture Production	116
	2. Issues and Constraints	118
	3. Strengths and Opportunities	118
	4. Apiculture Development Program and Strategies	118
7.5	Projected Outcomes	119
8	Spice and Minor Crops Development Plan	121
8.1	Background	121
8.2.	Current Status	122
	1. Production	122
	2. Production System	125
	3. Major Production Areas	126
	4. Marketing	127
8.3.	Key Industry Partners and Stakeholders	129
	1. PNG Spice Industry Board	129
	2. NARI	130
	3. NAQIA	130
	4. Shipping Agent	130
	5. NDAL	130
8.4.	Issues and Constraints	131
	1. Lack of local market infrastructure	131
	2. Lack of market promotion	131
	3. Lack of human resources development	131
	4. Farm model	131
	5. Research/extension	132
8.5	Strengths and Potential	132
	1. High world market price and demand	132
	2. Short cultivation time	132
	3. Employment generation	133
	4. Natural product	133
	5. Ease of handling	133
8.6	Proposed Development Programs	134
	1. Promote increased participation in production	134
	2. Spice and minor crops production	135
	3. Marketing of spice and minor crop	135
8.7	Expected Outcomes	136
9	NADP Management	137
9.1.	Introduction	137

9.2	Coordination Mechanism	137
	1. The Governing Council	137
	2. Technical Program Planning and Review Board	138
	3. The Secretariat	138
	4. Core values of coordination	140
9.3	Strategies for Coordination	141
9.4	Coordination Activities	141
	1. Setting priorities	142
	2. Defining objectives	143
	3. Identifying programs	143
	4. Recommendations to the National Planning Office	143
	5. Technical appraisal of projects	143
	6. Reviewing progress	144
	7. Monitoring and evaluation	144
	8. Reporting system	144
	9. Information/knowledge management	145
9.5	Training	145
9.6	Expected Outcomes	145
10	Proposed Budgetary Requirements of NADP	146
10.1	Review of Budget Allocations for Agriculture	146
10.2	Projected Budget for the Sector	147
10.3	Establishment and Management of the Funding System	148
	1. Endowment Fund	148
	2. Contestable Pool of Funds	149
	3. Provincial Commitment to Agriculture	150
10.4	Estimated Budgetary Requirement	151
	References	153
	Annex A (Commodity Organizations Priorities and Strategies)	157
	Annex B (Provincial Priorities and Strategies)	159

LIST OF FIGURES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1.1	NADP Framework	6
5.1	Highlands Sweet Potato Shipment to Port Moresby	72
5.2	Shipment of Highlands Vegetables to Port Moresby	72
7.2	Estimate of Fish Production	113
7.3	Honey Production in Eastern Highlands 1975-2003	117
9.1	NADP Coordination System	139
9.2	Linkages of NADP, CA, NDAL, Corporate and Provincial Plans based on NADP priority areas	142

LIST OF TABLES

<u>No.</u>	<u>Title</u>	<u>Page</u>
2.1	National population and distribution by region	9
2.2	Agricultural contribution to GDP: 1995-2004 (K million)	13
2.3	Export crops industry performance (1996-2005)	14
2.4	Balance of trade in agriculture, 1996-2004 (K million)	15
2.5	Agro-ecological adaptation of crops and livestock	26
5.1	Estimated production of staples	70
5.2	Estimated cash income from agricultural sources, Rural PNG, 1996	71
5.3	Average consumption of staples in PNG (kg/person/year)	73
5.4	Projected revenue from food crops in 5 years	84
6.1	Cocoa production by sectors and province, 2002-2004	87
6.2	Existing rubber development by settlement schemes, estates, and village planting	89
6.3	Volume and value of rubber exports from 1996-2002	90
6.4	Factory door price of coffee paid to growers in exporting countries, 1998-2002 in US cents per pound	92
6.5	Estimated cost of price support, 1993-1997	93
6.6	Expected outcomes from tree and industrial crops development	101
7.1	Estimated numbers, values, growth trends of various livestock in PNG	103
7.2	Projected income from livestock, apiculture, and aquaculture development	120
8.1	Number of households involved in spice production	122
8.2	Vanilla production and revenue, 2001-2004 (K'000)	123
8.3	Cardamom production and revenue, 2003	124
8.4	Other spice production and revenue, 2005	124
8.5	Total spice and minor crop production	126
8.6	Uses of spice crops	127
8.7	Export of vanilla, 2001-2005	128
8.8	Export of cardamom and chili, 2003-2004	128

8.9	Length of production and economic life of some spice crops	132
8.10	Estimated export revenue from old and new plantings	136
10.1	Actual development expenditures (in K000) of the NDAL, Statutory Authorities, and some Provinces, 2000-2004	146
10.2	Actual recurrent budget of the NDAL and Statutory Authorities, 2000-2004	147
10.3	Expenditures of NDAL recurrent budget (in K000), 2001-2004	147
10.4	Indicative MTDS Funding for income earning opportunities 2006-2007	148
10.5	Indicative MTDS Funding for priority sectors, 2006-2007	148
10.6	Actual Derivation Grants, 2000-2004	150
10.7	Budgetary requirement of NADP	152

List of Acronyms

ACEDP	Alternative Crop Extension and Development Program
ACIAR	Australian Centre for International Agricultural Research
ADB TA	Asian Development Bank Technical Assistance
AIGF	Agricultural Innovations Grant Facility
AoA	Agreement on Agriculture
APEC	Asia-Pacific Economic Cooperation
ARO	Area of Research Opportunities
BPNG	Bank of PNG
CA	Collaborating Agencies
CCI	Cocoa and Coconut Institute
CIC	Coffee Industry Corporation
CBO	Community-based Organization
CO	Commodity Organization
CRMF	Christian Radio Missionary Fellowship
CSIRO	Commonwealth Scientific I Research Organization
DIS	Delivered in store
DOC	Day-old chicks
DPLGA	Department of Provincial and Local Government Affairs
DTI	Department of Trade and Industry
EHP	Eastern Highland Province
EPA	Economic Partnership Agreement
ESP	Extension service provider
EU	European Union
FER	Functional and Expenditure Review
FFS	Farmer Field School
FOB	Freight on Board
FPDA	Fresh Produce Development Agency
GC	Governing Council
GDP	Gross Domestic Product

GIFT	Genetically Improved Farmed Tilapia
HAQDEC	Highlands Aquaculture Development Center
IATP	Integrated Agriculture Training Program
IHBA	Isten Hailans Bi-Kipas Asosiesen
ICCC	Independent Competition and Consumer Commission
IMF	International Monetary Fund
INA	Institute of National Affairs
IPA	Investment Promotion Authority
JICA	Japan International Cooperation Agency
KIK	Kokonas Indastri Koporesen
LDC	Livestock Development Corporation
LLG	Local Level Government
MAL	Making a Living
MSG	Melanesian Spearhead Group
MTDS	Medium Term Development Strategy
NADP	National Agricultural Development Plan
NADS	National Agricultural Development Strategy
NAEES	National Agricultural Extension and Education System
NAIS	National Agricultural Information System
NE	Nucleus Enterprise
NEC	National Executive Council
NFA	National Fisheries Authority
NGO	Non-government Organization
NARD	National Agricultural Research and Development
NARI	National Agricultural Research Institute
NARS	National Agricultural Research System
NDAL	National Department of Agriculture and Livestock
NAQIA	National Agricultural Quarantine and Inspection Authority
NISIT	National Institute for Standards and Industrial Technology
NOL	New Organic Law
NRI	National Research Institute
OPIC	Oil Palm Industry Corporation
OPRA	Oil Palm Research Association
PACER	Pacific Agreement on Closer Economic Relations
PATCRA	PNG-Australia Trade and Commerce Relations Agreement
PDPI	Provincial Division of Primary Industry
PGAB	Primary Government Agricultural Bodies
PIC	Pacific Island Countries
PICTA	Pacific Islands Countries Tourism Association
RDB	Rural Development Bank
SciCOM	Science Communication
SIB	Spice Industry Board
SP	Service Provider
SPARTECA	South Pacific Regional Trade and Economic Agreement
SPS	Sanitary and Phytosanitary Services
SSSPP	Smallholder Support Services Pilot Project

TAC	Technical Advisory Committee
TBT	Technical Barriers to Trade
TPPRB	Technical Program Planning and Review Board
OLPGLLG	Organic Law on Provincial Governments and Local Level Governments
UoT	Papua New Guinea University of Technology
UoV	University of Vudal
VAT	Value Added Tax
VEW	Village extension worker
WTO	World Trade Organization

FOREWORD

Since my government took office in 2002, we have deliberately introduced a number of key policy initiatives, strategies and plans to develop our nation. These include the Medium Term Development Strategy 2005 – 2010, Agriculture Investment Incentives and Subsidies (Green Revolution) Policy 2003, the National Education Plan 2005 - 2014, the National Transport Development Plan 2006 – 2010 and the National Strategic Plan on HIV/AIDS 2006 -2010 and National Lands Development Program. I am pleased that my government, has for the first time since our independence, developed the National Agriculture Development Plan (NADP) 2007-2016.



Grand Chief Sir Michael T Somare
Prime Minister

Agriculture is the backbone, foundation of our rural economy and heart of the nation. It produces all the food for subsistence and provides a base for employment and income generation for over 82% of the population. My government, recognizing that agriculture has enormous potential and will continue to play an important role in sustaining the basic livelihood of our people, has developed this National Agriculture Development Plan (NADP) as a blue print to guide our future directions in agriculture and rural development.

The NADP has created a platform for the local, district, provincial and national governments, and the private sector to venture into strategic partnerships with land owners and other stakeholders to utilize the available land, resources and technology in all 89 districts. This would enable the vast majority of the rural population to participate actively in the economic development of this nation and thereby guarantee food security and improved livelihood for all the citizens of Papua New Guinea.

The NADP will address the issues relating to economic inequality and poverty among the rural communities by promoting smallholder agriculture development, in tandem with medium to large scale commercial agricultural enterprises which will provide the framework to mobilize the rural poor to utilize their customary lands productively and invest in income generating activities. This would eventually enable them to work their way out of poverty and social inequality and spread the benefits across the wider community. It proposes a number of redistributive reform packages that would assist to unleash the productive potential of the rural population and contribute in achieving the Millennium Development Goals and the 5% national economic growth envisaged in the MTDS.

The enormous economic potential of the agriculture sector will be realized through proper management and implementation of the NADP. As a renewable resource, it will continue to support the future generations on a sustainable basis when non-renewable resources; oil, gas and minerals have declined or been depleted. The cost-benefit analysis of the plan reflects high economic returns, besides the social benefits to the rural

communities. It is projected that revenue from the agriculture sector is capable of financing 40% of the national budget.

Greater integration of activities and linkages of Central Agencies, provincial and local level governments, donor partners, non-government organizations, private sector and others are absolutely necessary for the successful implementation of NADP. It must be emphasized that implementing agriculture development, under the framework of NADP, serves as the precursor for rural development that will eventually lead to establishment of transport, utilities, schools, health centres and other economic and social infrastructures. The overall success of future agriculture development will depend on its integration and partnership with other sector agencies responsible for road, sea, and air transport, lands, forestry, environment and conservation, health, education, law and order and others.

Therefore, the implementation of NADP is a very significant national development program that should be supported by all sectors and the general society, as the catalyst to stimulate overall economic growth and social development in PNG. The importance of cooperation in order to achieve our common vision cannot be overemphasized. Only then can progress be achieved as envisioned in the NADP.

I am indeed pleased to note that under the framework of the NADP, agricultural development in Papua New Guinea will advance in a unified direction. I congratulate the Minister for Agriculture and Livestock, National Department of Agriculture and Livestock, sector agencies, national and provincial departments, private sector, donor agencies, NGOs, farmers and the community at large for the successful formulation of the NADP and urge you all to combine your efforts for the effective implementation of the plan.

I am honoured to present the NADP to the people of Papua New Guinea.



MICHAEL T SOMARE GCL GCMG CH CF KStJ

Prime Minister

MINISTER'S STATEMENT

I have always maintained that Papua New Guinea's agriculture sector has a significant role to play in providing broad based income and employment to the vast majority of the population in the country, who live in the rural areas. However, due to the absence of a national agriculture plan in the past, agriculture sector was driven on an ad-hoc basis, without proper coordination and control, and has faced many difficulties, with estimated growth well below expectations, except for one or two sub sectors that have fared well. This has apparently affected most rural population that depends exclusively on agriculture for their livelihood.



Hon. Sasa Zibe, MP
Minister for Agriculture
and Livestock

Among the factors identified as contributing to lack of growth of the agriculture sector are fragmented planning and lack of coordination, monitoring and evaluation. This situation has affected allocation of available limited resources to priority areas in agriculture.

To correct this situation, the Government directed the Department of Agriculture and Livestock to develop in consultation with all stakeholders, a well articulated National Agricultural Development Plan that clearly identifies priority areas for development and link the resource framework and budget to effectively implement agriculture programmes.

As the Minister responsible, I am now honoured to deliver this historical document; the National Agriculture Development Plan to the People of PNG. At last, after 32 years of independence, we now have a comprehensive and cohesive national plan that will not only pave the way for agriculture development, but also be a precursor for overall economic and social development in PNG.

The NADP will provide a unified direction in the next 10 years for all stakeholders including National and Provincial Governments, sector agencies, the 89 districts, private sectors, NGOs, Civil Society, Donor agencies and the farming communities at large. This will be a catalyst that will stimulate growth and sustainable development of the agricultural sector. Its main purpose is to underpin the MTDS of the Government and guide the development of the sector through the alignment of resources with identified priorities.

It is a known fact that 97% of land is owned by the people and about 80,000 school leavers are leaving school every year, and more that 87% of our people live in rural areas and depend very much on our biodiversity for their livelihood. For the first time, the NADP will absorb these people with their natural resources to actively participate

meaningfully in micro agricultural development. Women, youth and the general population will benefit from the implementation of this plan as this will provide employment and income generating opportunities and will continue to sustain the livelihood of households.

The activities identified in the plan will be implemented in the 89 districts and therefore calls for strengthening of linkages, support services and increased capacity in the districts as the emphasis of this plan is to foster economic growth in the districts.

The strategic direction over the next ten years under the NADP is to continue to build and consolidate on the efforts achieved over the last 32 years. However, this time, the efforts will be more concerted and focused to realize sustainable growth in the agriculture sector, and ultimately contribute to economic and social advancement in PNG.

It is envisaged that adequate levels of funding will be appropriated by Government to ensure that programmes are funded to make the agriculture sector more productive. The major source of funding will be from the Government, however it is expected that the NADP will also attract donor funding and private sector investment particularly in the areas where tree crops are linked to Clean Development Mechanisms.

The way forward for the economy to grow is to develop strategic partnerships and form alliances through private and public sector arrangements, and the vehicle through which we can move forward, is through the NADP. Since 2005, the Government has introduced a number of 'Green Revolution' incentives to attract investment in the agriculture sector. I encourage both public and private sector to take advantage of these and invest in the NADP.

On this note, I take this opportunity to acknowledge and thank the various agencies, departments, organizations and individuals who have collectively contributed to the successful formulation of the NADP, namely:-

The Government of PNG and the Food and Agriculture Organization of the United Nations, for their financial and technical support;

The Chairman and members of the Economic Sector Ministerial Committee for their invaluable guidance and undivided support;

The Members of the National Agriculture Council for their support and endorsement of the plan;

My predecessor, Hon. Mathew Siune, MBE, MP and former Department Secretary, Mathew'wela B. Kanua for initiating the formulation of the NADP;

Agriculture sector agencies and organizations; OPIC, CCI, KIK, CIC, NARI, NAQIA, LDC, FPDA, SIB, Cocoa Board, Rubber Industry, Provincial DAL;

Government Departments; DNP&M, Treasury, DoF, Dept. PM & NEC, DCI, DPLLG, NFA, DoW, DoT, DLPP, NEFC, ORD, Provincial Administrations;

Private Sector, Statutory Bodies and Civil Society; RIC, RDB, PNG Microfinance, PNGSDL, Trukai Industries, Galley Reach Holdings, NR Global, INA, CIMC, Hope Worldwide, Farmer Repts, UoT, UoV, Ramu Sugar Ltd;

Donors and International Agencies; ADB, AusAID, EU, IFAD, JICA, NZAID, PR-China, ROC- (Taiwan), UNDP, World Bank;

In conclusion, I express my sincere gratitude and appreciation to the Secretary of the Department of Agriculture and Livestock; Anton K. Benjamin and his NADP Team and Staff, as well as my Ministerial staff for their tireless and dedicated efforts in the coordination and formulation of the NADP.



HON. SASA ZIBE, MP
Minister for Agriculture and Livestock

EXECUTIVE SUMMARY

In September 2001, the National Executive Council (NEC) directed the National Department of Agriculture and Livestock (NDAL) to develop a medium term National Agriculture Development Plan (NADP). Accordingly, NDAL, having consulted all stakeholders and the wider community within the agriculture sector, formulated the plan with technical and financial assistance from the GoPNG and the Food and Agriculture Organization (FAO) of the United Nations under the Technical Cooperation Program (TCP No. 3003A).

The **vision** of NADP is sustainable transformation of the country's agriculture sector into a vibrant and productive economic sector that contributes to economic growth, social wellbeing, national food security and poverty alleviation.

The **Mission** of NADP is to enhance and improve the quality of life for over 87% of the rural population in 89 districts and 19 provinces; through increased productivity, sustainable and quality production coupled with integrated planning and environmental sustainable management.

The **overall goal of NADP** is to stimulate economic growth in the agriculture sector in all districts through the development of a well coordinated planning and implementation that are interactive, and effective, involving the full participation of the stakeholders, which promotes food security, income generation and poverty alleviation.

The objectives of NADP are;

- To reduce costs of production and improve quality of agricultural produce for both domestic and international markets
- To increase income earning opportunities of those dependent on agriculture.
- To allocate resources based on priority areas
- To ensure that development is socially, economically, and environmentally sustainable
- To improve the recognition of women's contributions to rural industries and increase opportunities for women's decision making in agriculture

The eight priority areas in NADP are;

(1) Agriculture research, extension, information and training;

The research, extension, information and training sub-components, aim at providing appropriate technology packages, backed up by extension information and human resources capacity building for farmers to effectively participate economically in agriculture activities in their respective communities. Out comes include; improved technology packages and delivery systems, increased knowledge and skills of farmers and extension agents, and efficient market intelligence networks.

(2) Food and horticultural crops development;

The food and horticultural crops sub-component will promote economic production of food and horticultural crops, for domestic consumption and for exports in crops that PNG has competitive advantage. Down stream processing will be promoted for value addition. Out comes include; increased production of local food crops and vegetables, establishment of efficient marketing systems, downstream procession and value adding facilities, reduction of imports (rice), increased income, employment and improved nutritional status, livelihood of rural households.

(3) Tree and industrial crops development;

The tree and industrial crops sector aims at mobilizing the population in the various production areas, to increase on the productivity and production of the various crops. This will be achieved through; rehabilitation of plantations, planting of new plantations / farms, promotion of nucleus estates where feasible, organizing farmers into cooperatives for production and marketing purposes, promote access to credit and markets and encourage down stream processing where feasible. The tree crop sector will continue to play an increasing role in income and revenue generation for the country. Out comes include; increased production, productivity, and marketing systems, generate export earning opportunities, improved employment and income of smallholders and contribute to increased GDP.

(4) Livestock, apiculture and aquaculture development;

The main aim of this component is to promote livestock, apiculture and aquaculture production for import replacement and to provide affordable nutritious food to Papua New Guineans.

This would entail rehabilitation of breeding centers; introduction of improved breeds, promotion of small and large livestock, and draught and pack animals for cultivation and transport. Out comes include; revitalized livestock industry, increased domestic livestock production, create employment and generate income, improved protein supplement, enhanced nutritional status, and contribute to import replacement.

(5) Spice and minor crops development;

Spices and minor crops that are economically sustainable will be promoted as alternative export crops; through capacity building, supply of quality planting materials and post harvest quality management/control and improved marketing opportunities. Out comes include; revitalized spice industry, increased production, and improved processing and marketing systems.

(6) Gender, social and HIV/AIDS related issues;

It is recognized that women's contribution to the well being of society is essential in agriculture production in PNG. The Gender social and HIV/AIDS sub component goals are; to promote equal participation of women in all aspects of agriculture and livestock

development, so as to improve the status of women through economic development, and also to ensure that, gender, social and HIV/AIDS are mainstreamed in all agriculture development programs. Women would be empowered through training, skills development and small credit scheme in the production, processing and marketing of agricultural products. Out comes include; empowered participation of women in all aspects of agriculture development, and gender, social and HIV/AIDS mainstreamed in the agriculture sector.

(7) Regulatory and technical services;

The regulatory and technical services include agricultural quarantine, land use planning and development and Codex and food safety.

The Quarantine component is to preserve and protect the animals, plants and fish from exotic pests, diseases and weeds in the interest of national, social and economic development, and also to facilitate international trade through export and import risk analysis and quality assurance systems and thereby contributing to the Government's export driven economic recovery policy. Outcomes include; improved surveillance and intelligence systems on exotic pests and diseases, improved quality control and assurance on import and export products, improved human resource capacities.

The Land use planning and development component will develop sustainable land resource plans for the provinces, enhance geographical presentation of land resources and maps, and improve land resource inventory and database management. Outcomes include: improved land use planning, management and technical capacity.

Codex will promote against contaminated food and protect consumer's health, facilitate international trade by eliminating trade barriers and develop food standards and food policies in compliance with Codex requirements. Outcomes include; improved food safety standards and consumer health,

(8) NADP management and coordination.

A management structure for the overall coordination and monitoring of the implementation of the NADP to ensure that the programs and projects are successfully implemented within the time frame and allocated resources/budgets have been outlined. The current funding level to the agriculture sector has been reviewed and an indicative budget for development activities has been proposed. Outcomes include; well coordinated planning, management and monitoring of the sector through NADP.

The successful implementation of this plan hinges on the commitment of all players and the resources allocated at all levels (national, provincial and district). The targeted private sector investment programs are; rice, wheat, cattle, feed for domestic animal production, cashew, cassava, noni, jatropha, sago, spices, downstream processing, through the nucleus and out grower production systems.

Most of this plan will be implemented in the districts and likely to be affected by factors that are external to the sector. Hence, NADP will form part of the Medium Term

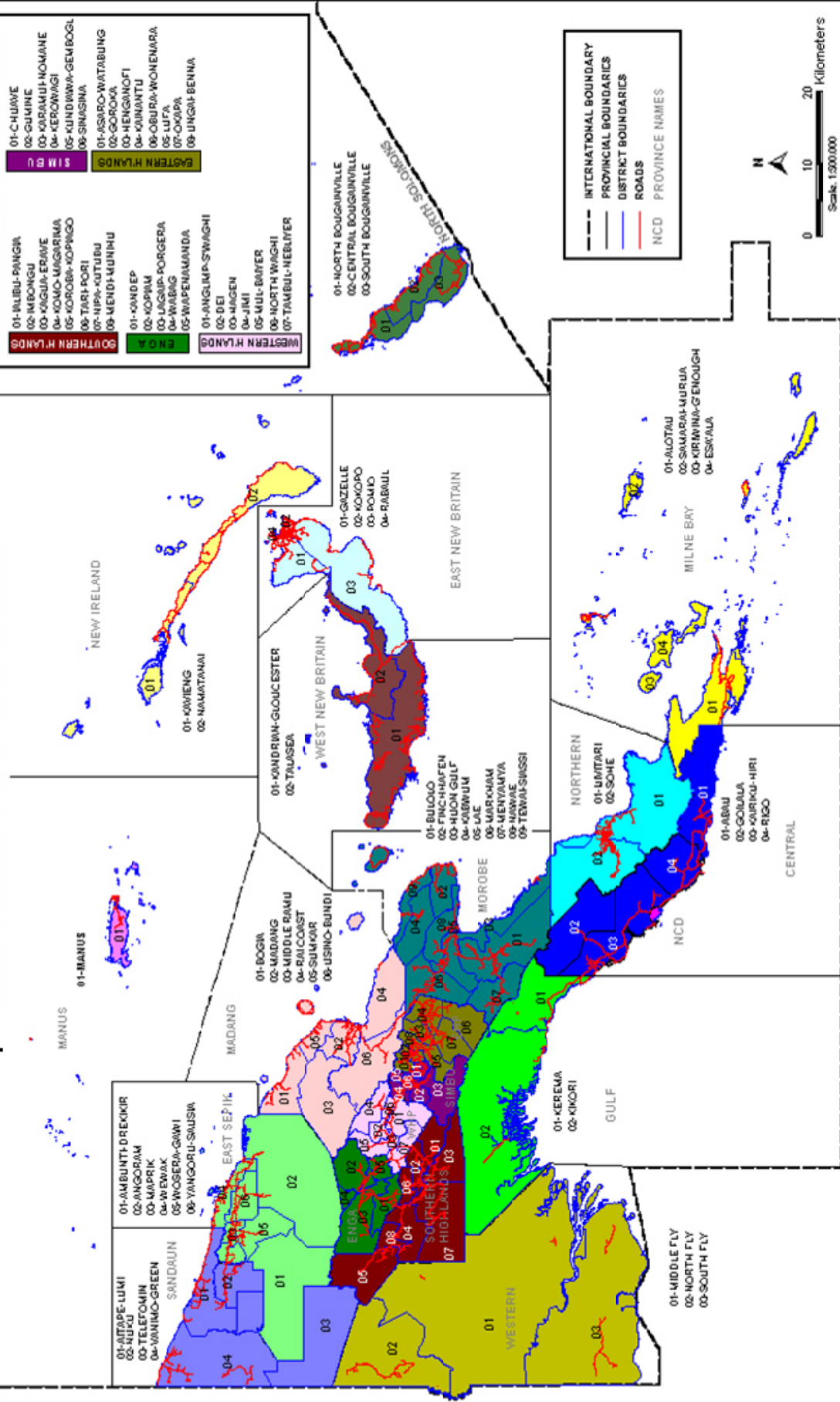
Development Strategy (MTDS) 2005 – 2010 which forms the overall national strategic framework for economic and social development.

The estimated total budget required for the implementation of NADP for the period 2007 – 2016 is **K1, 198 million**. The total projected revenue from the various components for the period 2007 – 2016 would be **K22, 000 million**. The breakup is; Tree crop sector **K10,547 million**, Food and Horticulture crops K553.3 million, Spice and minor crops K61.9 million, Livestock, aquaculture and apiculture K208.5 million, **The output (revenue) to input (budget) is highly positive and needs to be supported.**

In addition, the value of food and horticultural crops that are not marketed but produced and consumed/utilized by households is estimated at K5 billion annually.

The major source of funding will be the national government. Other anticipated funding sources are bilateral and multilateral donor agencies and the private sector investment, particularly in the tree crop sector where further development is linked to Clean Development Mechanism Policies. Provincial government's commitment and counterpart funding is crucial to support those programs that will be implemented in the respective provinces. It is encouraging to note that under the new Provincial Finance Management Plan the derivation grants will be utilized for agriculture development in the districts.

Map 1 : DISTRICTS OF PAPUA NEW GUINEA



Source: PNG Resources Information System, by David Lee Suman

Map.2 : EXISTING AND POTENTIAL COMMODITIES OF PAPUA NEW GUINEA

